

**UTILITY
PATENT APPLICATION
TRANSMITTAL**

(Only for new nonprovisional applications under 37 C.F.R. 1.53(b))

Attorney Docket No. 2557-000155/US

Inventor(s) Jong-hyoung LIM and Hui-kyung SUNG

Title INTEGRATED CIRCUIT MEMORY DEVICE INCLUDING DELAY
LOCKED LOOP CIRCUIT AND DELAY LOCKED LOOP CONTROL
CIRCUIT AND METHOD OF CONTROLLING DELAY LOCKED LOOP
CIRCUIT**APPLICATION ELEMENTS**

See MPEP chapter 600 concerning utility patent application contents.

1. ☒ Fee Transmittal Form (e.g., PTO/SB/17)
(Submit an original and a duplicate for fee processing)
2. ☐ Applicant claims small entity status.
See 37 CFR 1.27.
3. ☒ Specification [Total Pages 30]
(preferred arrangement set forth below)
- Descriptive title of the Invention
- Cross References to Related Applications
- Statement Regarding Fed sponsored R & D
- Reference to sequence listing, a table,
or a computer program listing appendix
- Background of the Invention
- Brief Summary of the Invention
- Brief Description of the Drawings (if filed)
- Detailed Description
- Claim(s)
- Abstract of the Disclosure
4. ☒ Drawing(s) (35 U.S.C. 113) [Total Sheets 16]
5. Oath or Declaration [Total Pages 3]
a. ☒ Newly executed (original or copy)
b. ☐ Copy from a prior application (37 CFR 1.63 (d))
(for a continuation/divisional with Box 18 completed)
i. ☐ **DELETION OF INVENTOR(S)**
Signed statement attached deleting inventor(s)
named in the prior application, see 37 CFR
1.63(d)(2) and 1.33(b).
6. ☐ Application Data Sheet. See 37 CFR 1.76

ADDRESS TO:Assistant Commissioner for Patents
Box Patent Application
Washington, DC 20231

7. ☐ CD-ROM or CD-R in duplicate, large table or
Computer Program (Appendix)
8. Nucleotide and/or Amino Acid Sequence Submission
(if applicable, all necessary)
a. ☐ Computer Readable Form (CRF)
b. Specification Sequence Listing on:
i. ☐ CD-ROM or CD-R (2 copies); or
ii. ☐ paper
c. ☐ Statements verifying identity of above copies

ACCOMPANYING APPLICATIONS PARTS

9. ☒ Assignment Papers (cover sheet & document(s))
10. ☐ 37 C.F.R. §3.73(b) Statement ☒ Power of
(when there is an assignee) Attorney
11. ☐ English Translation Document (if applicable)
12. ☐ Information Disclosure ☐ Copies of IDS
Statement (IDS)/PTO-1449 Citations
13. ☐ Preliminary Amendment
14. ☒ Return Receipt Postcard (MPEP 503)
(Should be specifically itemized)
15. ☐ Certified Copy of Priority Document(s)
(if foreign priority is claimed)
16. ☐ Request and Non Publication under 35 U.S.C. 122
(b)(2)(B)(i). Applicant must attach form PTO/SB/35
or its equivalent.
17. ☐ Other:

18. If a CONTINUING APPLICATION, check appropriate box, and supply the requisite information below and in a preliminary amendment,
or in an Application Data Sheet under 37 CFR 1.76:

☐ Continuation ☐ Divisional ☐ Continuation-in-part (CIP) of prior application No: ____ / ____
Prior application information: Examiner: ____ Group / Art Unit: ____

For CONTINUATION or DIVISIONAL APPS only: The entire disclosure of the prior application, from which an oath or declaration is supplied
under Box 5b, is considered a part of the disclosure of the accompanying or divisional application and is hereby incorporated by reference.
The incorporation can only be relied upon when a portion has been inadvertently omitted from the submitted application parts.

17. CORRESPONDENCE ADDRESS☒ Customer Number or Bar Code Label**30593**Or ☐ Correspondence address below

(Insert Customer No. or Attach bar code label here)

Name

Harness, Dickey & Pierce, P.L.C.

Address

P.O. Box 8910

City

Reston

State

VA

Zip Code

20195

Country

United States of America

Telephone

703-668-8000

Fax

703-668-8200

Name (Print/Type)

Gary D. Yacura

Registration No. (Attorney/Agent)

35,416

Signature

Date

August 25, 2003

Burden Hour Statement: This form is estimated to take 0.2 hours to complete. Time will vary depending upon the needs of the individual case. Any
comments on the amount of time you are required to complete this form should be sent to the Chief Information Officer, U.S. Patent and Trademark
Office, Washington, DC 20231. DO NOT SEND FEES OR COMPLETED FORMS TO THIS ADDRESS. SEND TO: Assistant Commissioner for
Patents, Box Patent Application, Washington, DC 20231.

08/25/03

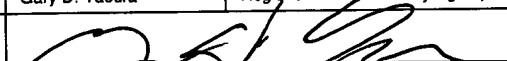
18334 U.S. PTO

Approved for use through 10/31/2002. OMB 0651-0032
 U.S. Patent and Trademark Office: U.S. DEPARTMENT OF COMMERCE
 Under the Paperwork Reduction Act of 1995, no persons are required to respond to a collection of information unless it displays a valid OMB control number.

FEE TRANSMITTAL for FY 2003 <i>Patent fees are subject to annual revision.</i>		Complete if Known	
		Application Number	NEW APPLICATION
		Filing Date	AUGUST 25, 2003
		Inventor(s)	Jong-hyoung Lim et al.
		Examiner Name	UNASSIGNED
		Group / Art Unit	UNASSIGNED
TOTAL AMOUNT OF PAYMENT		(\$)	1,018.00
		Attorney Docket No.	2557-000155/US

METHOD OF PAYMENT (check one)		FEE CALCULATION (continued)																																																																																																																																																																																											
1. <input checked="" type="checkbox"/> The Commissioner is hereby authorized to charge indicated fees and credit any over payments to: Deposit Account Number: 08-0750 Deposit Account Name: Harness, Dickey & Pierce, P.L.C. <input checked="" type="checkbox"/> Charge Any Additional Fee Required Under 37 CFR 1.16 and 1.17 <input type="checkbox"/> Applicant claims small entity status. See 37 CFR 1.27		3. ADDITIONAL FEES <table border="1"> <thead> <tr> <th>Fee Code</th> <th>Large Entity Fee (\$)</th> <th>Small Entity Fee Code</th> <th>Small Entity Fee (\$)</th> <th>Fee Description</th> <th>Fee Paid</th> </tr> </thead> <tbody> <tr><td>105</td><td>130</td><td>205</td><td>65</td><td>Surcharge - late filing fee or oath</td><td></td></tr> <tr><td>127</td><td>50</td><td>227</td><td>25</td><td>Surcharge - late provisional filing fee or cover sheet.</td><td></td></tr> <tr><td>139</td><td>130</td><td>139</td><td>130</td><td>Non-English specification</td><td></td></tr> <tr><td>147</td><td>2,520</td><td>147</td><td>2,520</td><td>For filing a request for reexamination</td><td></td></tr> <tr><td>112</td><td>920*</td><td>112</td><td>920*</td><td>Requesting publication of SIR prior to Examiner action</td><td></td></tr> <tr><td>113</td><td>1,840*</td><td>113</td><td>1,840*</td><td>Requesting publication of SIR after Examiner action</td><td></td></tr> <tr><td>115</td><td>110</td><td>215</td><td>55</td><td>Extension for reply within first month</td><td></td></tr> <tr><td>116</td><td>410</td><td>216</td><td>205</td><td>Extension for reply within second month</td><td></td></tr> <tr><td>117</td><td>930</td><td>217</td><td>465</td><td>Extension for reply within third month</td><td></td></tr> <tr><td>118</td><td>1,450</td><td>218</td><td>725</td><td>Extension for reply within fourth month</td><td></td></tr> <tr><td>128</td><td>1,970</td><td>228</td><td>985</td><td>Extension for reply within fifth month</td><td></td></tr> <tr><td>119</td><td>320</td><td>219</td><td>160</td><td>Notice of Appeal</td><td></td></tr> <tr><td>120</td><td>320</td><td>220</td><td>160</td><td>Filing a brief in support of an appeal</td><td></td></tr> <tr><td>121</td><td>280</td><td>221</td><td>140</td><td>Request for oral hearing</td><td></td></tr> <tr><td>138</td><td>1,510</td><td>138</td><td>1,510</td><td>Petition to institute a public use proceeding</td><td></td></tr> <tr><td>140</td><td>110</td><td>240</td><td>55</td><td>Petition to revive - unavoidable</td><td></td></tr> <tr><td>141</td><td>1,300</td><td>241</td><td>650</td><td>Petition to revive - unintentional</td><td></td></tr> <tr><td>142</td><td>1300</td><td>242</td><td>650</td><td>Utility issue fee (or reissue)</td><td></td></tr> <tr><td>143</td><td>470</td><td>243</td><td>235</td><td>Design issue fee</td><td></td></tr> <tr><td>144</td><td>630</td><td>244</td><td>315</td><td>Plant issue fee</td><td></td></tr> <tr><td>122</td><td>130</td><td>122</td><td>130</td><td>Petitions to the Commissioner</td><td></td></tr> <tr><td>123</td><td>50</td><td>123</td><td>50</td><td>Processing fee under 37 CFR 1.17 (q)</td><td></td></tr> <tr><td>126</td><td>180</td><td>126</td><td>180</td><td>Submission of Information Disclosure Stmt</td><td></td></tr> <tr><td>581</td><td>40</td><td>581</td><td>40</td><td>Recording each patent assignment per property (times number of properties)</td><td>40</td></tr> <tr><td>146</td><td>750</td><td>246</td><td>375</td><td>Filing a submission after final rejection (37 CFR § 1.129(a))</td><td></td></tr> <tr><td>149</td><td>750</td><td>249</td><td>375</td><td>For each additional invention to be examined (37 CFR § 1.129(b))</td><td></td></tr> <tr><td>179</td><td>750</td><td>279</td><td>375</td><td>Request for Continued Examination (RCE)</td><td></td></tr> <tr><td>169</td><td>900</td><td>169</td><td>900</td><td>Request for expedited examination of a design application</td><td></td></tr> <tr><td colspan="5">Other fee (specify) _____</td><td></td></tr> <tr> <td colspan="5">*Reduced by Basic Filing Fee Paid</td> <td> SUBTOTAL (3) (\$40) </td> </tr> </tbody> </table>		Fee Code	Large Entity Fee (\$)	Small Entity Fee Code	Small Entity Fee (\$)	Fee Description	Fee Paid	105	130	205	65	Surcharge - late filing fee or oath		127	50	227	25	Surcharge - late provisional filing fee or cover sheet.		139	130	139	130	Non-English specification		147	2,520	147	2,520	For filing a request for reexamination		112	920*	112	920*	Requesting publication of SIR prior to Examiner action		113	1,840*	113	1,840*	Requesting publication of SIR after Examiner action		115	110	215	55	Extension for reply within first month		116	410	216	205	Extension for reply within second month		117	930	217	465	Extension for reply within third month		118	1,450	218	725	Extension for reply within fourth month		128	1,970	228	985	Extension for reply within fifth month		119	320	219	160	Notice of Appeal		120	320	220	160	Filing a brief in support of an appeal		121	280	221	140	Request for oral hearing		138	1,510	138	1,510	Petition to institute a public use proceeding		140	110	240	55	Petition to revive - unavoidable		141	1,300	241	650	Petition to revive - unintentional		142	1300	242	650	Utility issue fee (or reissue)		143	470	243	235	Design issue fee		144	630	244	315	Plant issue fee		122	130	122	130	Petitions to the Commissioner		123	50	123	50	Processing fee under 37 CFR 1.17 (q)		126	180	126	180	Submission of Information Disclosure Stmt		581	40	581	40	Recording each patent assignment per property (times number of properties)	40	146	750	246	375	Filing a submission after final rejection (37 CFR § 1.129(a))		149	750	249	375	For each additional invention to be examined (37 CFR § 1.129(b))		179	750	279	375	Request for Continued Examination (RCE)		169	900	169	900	Request for expedited examination of a design application		Other fee (specify) _____						*Reduced by Basic Filing Fee Paid					SUBTOTAL (3) (\$40)
Fee Code	Large Entity Fee (\$)	Small Entity Fee Code	Small Entity Fee (\$)	Fee Description	Fee Paid																																																																																																																																																																																								
105	130	205	65	Surcharge - late filing fee or oath																																																																																																																																																																																									
127	50	227	25	Surcharge - late provisional filing fee or cover sheet.																																																																																																																																																																																									
139	130	139	130	Non-English specification																																																																																																																																																																																									
147	2,520	147	2,520	For filing a request for reexamination																																																																																																																																																																																									
112	920*	112	920*	Requesting publication of SIR prior to Examiner action																																																																																																																																																																																									
113	1,840*	113	1,840*	Requesting publication of SIR after Examiner action																																																																																																																																																																																									
115	110	215	55	Extension for reply within first month																																																																																																																																																																																									
116	410	216	205	Extension for reply within second month																																																																																																																																																																																									
117	930	217	465	Extension for reply within third month																																																																																																																																																																																									
118	1,450	218	725	Extension for reply within fourth month																																																																																																																																																																																									
128	1,970	228	985	Extension for reply within fifth month																																																																																																																																																																																									
119	320	219	160	Notice of Appeal																																																																																																																																																																																									
120	320	220	160	Filing a brief in support of an appeal																																																																																																																																																																																									
121	280	221	140	Request for oral hearing																																																																																																																																																																																									
138	1,510	138	1,510	Petition to institute a public use proceeding																																																																																																																																																																																									
140	110	240	55	Petition to revive - unavoidable																																																																																																																																																																																									
141	1,300	241	650	Petition to revive - unintentional																																																																																																																																																																																									
142	1300	242	650	Utility issue fee (or reissue)																																																																																																																																																																																									
143	470	243	235	Design issue fee																																																																																																																																																																																									
144	630	244	315	Plant issue fee																																																																																																																																																																																									
122	130	122	130	Petitions to the Commissioner																																																																																																																																																																																									
123	50	123	50	Processing fee under 37 CFR 1.17 (q)																																																																																																																																																																																									
126	180	126	180	Submission of Information Disclosure Stmt																																																																																																																																																																																									
581	40	581	40	Recording each patent assignment per property (times number of properties)	40																																																																																																																																																																																								
146	750	246	375	Filing a submission after final rejection (37 CFR § 1.129(a))																																																																																																																																																																																									
149	750	249	375	For each additional invention to be examined (37 CFR § 1.129(b))																																																																																																																																																																																									
179	750	279	375	Request for Continued Examination (RCE)																																																																																																																																																																																									
169	900	169	900	Request for expedited examination of a design application																																																																																																																																																																																									
Other fee (specify) _____																																																																																																																																																																																													
*Reduced by Basic Filing Fee Paid					SUBTOTAL (3) (\$40)																																																																																																																																																																																								
2. EXTRA CLAIM FEES <table border="1"> <thead> <tr> <th>Total Claims</th> <th>Extra Claims</th> <th>Fee from below</th> <th>Fee Paid</th> </tr> </thead> <tbody> <tr> <td>28</td> <td>-20 ** = 8</td> <td>18</td> <td>144</td> </tr> <tr> <td>Independent Claims</td> <td>4</td> <td>-3 ** = 1</td> <td>84</td> </tr> <tr> <td>Multiple Dependent</td> <td>0</td> <td>X 0</td> <td></td> </tr> </tbody> </table>		Total Claims	Extra Claims	Fee from below	Fee Paid	28	-20 ** = 8	18	144	Independent Claims	4	-3 ** = 1	84	Multiple Dependent	0	X 0		1. BASIC FILING FEE <table border="1"> <thead> <tr> <th>Large Fee Code</th> <th>Entity Fee (\$)</th> <th>Small Fee Code</th> <th>Entity Fee (\$)</th> <th>Fee Description</th> <th>Fee Paid</th> </tr> </thead> <tbody> <tr><td>101</td><td>750</td><td>201</td><td>375</td><td>Utility filing fee</td><td>750</td></tr> <tr><td>106</td><td>330</td><td>206</td><td>165</td><td>Design filing fee</td><td></td></tr> <tr><td>107</td><td>520</td><td>207</td><td>260</td><td>Plant filing fee</td><td></td></tr> <tr><td>108</td><td>750</td><td>208</td><td>375</td><td>Reissue filing fee</td><td></td></tr> <tr><td>114</td><td>160</td><td>214</td><td>80</td><td>Provisional filing fee</td><td></td></tr> <tr><td colspan="5">SUBTOTAL (1)</td><td>(\$) 750</td></tr> </tbody> </table>		Large Fee Code	Entity Fee (\$)	Small Fee Code	Entity Fee (\$)	Fee Description	Fee Paid	101	750	201	375	Utility filing fee	750	106	330	206	165	Design filing fee		107	520	207	260	Plant filing fee		108	750	208	375	Reissue filing fee		114	160	214	80	Provisional filing fee		SUBTOTAL (1)					(\$) 750																																																																																																																																
Total Claims	Extra Claims	Fee from below	Fee Paid																																																																																																																																																																																										
28	-20 ** = 8	18	144																																																																																																																																																																																										
Independent Claims	4	-3 ** = 1	84																																																																																																																																																																																										
Multiple Dependent	0	X 0																																																																																																																																																																																											
Large Fee Code	Entity Fee (\$)	Small Fee Code	Entity Fee (\$)	Fee Description	Fee Paid																																																																																																																																																																																								
101	750	201	375	Utility filing fee	750																																																																																																																																																																																								
106	330	206	165	Design filing fee																																																																																																																																																																																									
107	520	207	260	Plant filing fee																																																																																																																																																																																									
108	750	208	375	Reissue filing fee																																																																																																																																																																																									
114	160	214	80	Provisional filing fee																																																																																																																																																																																									
SUBTOTAL (1)					(\$) 750																																																																																																																																																																																								
2. EXTRA CLAIM FEES <table border="1"> <thead> <tr> <th>Large Fee Code</th> <th>Entity Fee (\$)</th> <th>Small Fee Code</th> <th>Entity Fee (\$)</th> <th>Fee Description</th> <th>Fee Paid</th> </tr> </thead> <tbody> <tr><td>103</td><td>18</td><td>203</td><td>9</td><td>Claims in excess of 20</td><td></td></tr> <tr><td>102</td><td>84</td><td>202</td><td>42</td><td>Independent claims in excess of 3</td><td></td></tr> <tr><td>104</td><td>280</td><td>204</td><td>140</td><td>Multiple dependent claim, if not paid</td><td></td></tr> <tr><td>109</td><td>84</td><td>209</td><td>42</td><td>** Reissue independent claims over original patent</td><td></td></tr> <tr><td>110</td><td>18</td><td>210</td><td>9</td><td>** Reissue claims in excess of 20 and over original patent</td><td></td></tr> <tr><td colspan="5">SUBTOTAL (2)</td><td>(\$) 228</td></tr> </tbody> </table>		Large Fee Code	Entity Fee (\$)	Small Fee Code	Entity Fee (\$)	Fee Description	Fee Paid	103	18	203	9	Claims in excess of 20		102	84	202	42	Independent claims in excess of 3		104	280	204	140	Multiple dependent claim, if not paid		109	84	209	42	** Reissue independent claims over original patent		110	18	210	9	** Reissue claims in excess of 20 and over original patent		SUBTOTAL (2)					(\$) 228	2. EXTRA CLAIM FEES <table border="1"> <thead> <tr> <th>Large Fee Code</th> <th>Entity Fee (\$)</th> <th>Small Fee Code</th> <th>Entity Fee (\$)</th> <th>Fee Description</th> <th>Fee Paid</th> </tr> </thead> <tbody> <tr><td>103</td><td>18</td><td>203</td><td>9</td><td>Claims in excess of 20</td><td></td></tr> <tr><td>102</td><td>84</td><td>202</td><td>42</td><td>Independent claims in excess of 3</td><td></td></tr> <tr><td>104</td><td>280</td><td>204</td><td>140</td><td>Multiple dependent claim, if not paid</td><td></td></tr> <tr><td>109</td><td>84</td><td>209</td><td>42</td><td>** Reissue independent claims over original patent</td><td></td></tr> <tr><td>110</td><td>18</td><td>210</td><td>9</td><td>** Reissue claims in excess of 20 and over original patent</td><td></td></tr> <tr><td colspan="5">SUBTOTAL (2)</td><td>(\$) 228</td></tr> </tbody> </table>		Large Fee Code	Entity Fee (\$)	Small Fee Code	Entity Fee (\$)	Fee Description	Fee Paid	103	18	203	9	Claims in excess of 20		102	84	202	42	Independent claims in excess of 3		104	280	204	140	Multiple dependent claim, if not paid		109	84	209	42	** Reissue independent claims over original patent		110	18	210	9	** Reissue claims in excess of 20 and over original patent		SUBTOTAL (2)					(\$) 228																																																																																																						
Large Fee Code	Entity Fee (\$)	Small Fee Code	Entity Fee (\$)	Fee Description	Fee Paid																																																																																																																																																																																								
103	18	203	9	Claims in excess of 20																																																																																																																																																																																									
102	84	202	42	Independent claims in excess of 3																																																																																																																																																																																									
104	280	204	140	Multiple dependent claim, if not paid																																																																																																																																																																																									
109	84	209	42	** Reissue independent claims over original patent																																																																																																																																																																																									
110	18	210	9	** Reissue claims in excess of 20 and over original patent																																																																																																																																																																																									
SUBTOTAL (2)					(\$) 228																																																																																																																																																																																								
Large Fee Code	Entity Fee (\$)	Small Fee Code	Entity Fee (\$)	Fee Description	Fee Paid																																																																																																																																																																																								
103	18	203	9	Claims in excess of 20																																																																																																																																																																																									
102	84	202	42	Independent claims in excess of 3																																																																																																																																																																																									
104	280	204	140	Multiple dependent claim, if not paid																																																																																																																																																																																									
109	84	209	42	** Reissue independent claims over original patent																																																																																																																																																																																									
110	18	210	9	** Reissue claims in excess of 20 and over original patent																																																																																																																																																																																									
SUBTOTAL (2)					(\$) 228																																																																																																																																																																																								

**or number previously paid, if greater; For Reissues, see above

SUBMITTED BY		Complete (if applicable)	
Name (Print/Type)	Gary D. Yacura	Registration No. Attorney/Agent)	35,416
Signature		Telephone	703-668-8000
		Date	August 25, 2003

WARNING: Information on this form may become public. Credit card information should not be included on this form. Provide credit card information and authorization on PTO-2038.

Burden Hour Statement: This form is estimated to take 0.2 hours to complete. Time will vary depending upon the needs of the individual case. Any comments on the amount of time you are required to complete this form should be sent to the Chief Information Officer, U.S. Patent and Trademark Office, Washington, DC 20231. DO NOT SEND FEES OR COMPLETED FORMS TO THIS ADDRESS. SEND TO: Assistant Commissioner for Patents, Washington, DC 20231.